



BEST PRACTICES WORKSHOP

SHANNON SPRAGUE

CHAIR, CBP EDUCATION WORKGROUP

JAMIE BAXTER

PROGRAM DIRECTOR, CHESAPEAKE BAY TRUST

August 27, 2012

Environmental Issues are Complex and Distributed

“In the coming decades, the public will more frequently be called upon to understand complex environmental issues, assess risk, evaluate proposed environmental plans and understand how individual decisions affect the environment at local and global scales. Creating a scientifically informed citizenry requires a concerted, systematic approach to environmental education.”

National Science Foundation (2003)

1998:
Directive
98-1
Signed by
Governors

2000:
MWEE
Keystone
Commitment
Adopted

2002:
NOAA
B-WET
Created

2005:
Multi-State
MWEE
Tracking
Begins

2010:
Executive
Order Plan
Calls for
Education

2012:
Envi
Literacy
Strategy
Released



Chesapeake Bay Program

Chesapeake Executive Council

DECEMBER 8, 1998

DIRECTIVE NO 98-1

Chesapeake Bay Program Education Initiative

The future well-being of North America's largest and most productive estuary, the Chesapeake Bay, its thousands of tributaries and its 64,000 square miles of watershed will soon rest in the hands of its youngest citizens. These citizens, three million strong in kindergarten through 12th grade, are tomorrow's leaders. They also will be the stewards of the Bay's precious resources including its [fish, crabs and oysters, forests and wetlands](#).

As the [Chesapeake Bay Program](#) partnership, we acknowledge our responsibility to ensure that these future caretakers receive the knowledge and understanding necessary for them to make informed and intelligent decisions relative to their own actions and the actions of others who affect the Bay system. We acknowledge our duty to impart to these young people a sense of individual responsibility and our hope that they develop the skills to form a personal ethic regarding the natural world. Further, we acknowledge that the Chesapeake Bay, its rivers and its watershed provide an authentic, locally-relevant source of environmental information and data that should be used to help advance student learning skills and problem-solving abilities across the entire school curriculum.

Today, throughout the Chesapeake region, the Departments of Education and the many outstanding private environmental organizations in the region offer excellent programs that connect education and the environment. Examples include rigorous watershed, water resource and Bay-related learning standards in educational systems; professional development opportunities for teachers; opportunities for students to participate in Bay and other field experiences that reinforce academic learning standards; the use of high quality classroom materials that address the science, history, economics and cultural significance of our common resources; and voluntary student, teacher and citizen involvement in aquatic stewardship projects. Private environmental organizations in the Bay region also offer nationally-recognized training programs and curriculum.

Nevertheless, even with good policies and programs in place, we still recognize that there is a need to more fully connect the environment to mainstream educational efforts. As the Bay Program, we want to forge this connection by creating stronger links between educators, resource managers, educational administrators, environmental policy-makers, the scientific research community, schools, school districts,

Departments of Education become active partners in CBP

Interagency education group required in each jurisdiction

History of EE in the Region

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CHESAPEAKE 2000



The Chesapeake Bay is North America's largest and most biologically diverse estuary, home to more than 3,000 species of plants, fish and animals. For more than 300 years, the Bay and its tributaries have sustained the region's economy and defined its traditions and culture. It is a resource of extraordinary productivity, worthy of the highest levels of protection and restoration.

Accordingly, in 1983 and 1987, the states of Virginia, Maryland, Pennsylvania, the District of Columbia, the Chesapeake Bay Commission and the U.S. Environmental Protection Agency, representing the federal government, signed historic agreements that established the Chesapeake Bay Program partnership to protect and restore the Chesapeake Bay's ecosystem.

For almost two decades, we, the signatories to these agreements, have worked together as stewards to ensure the public's right to clean water and a healthy and productive resource. We have sought to protect the health of the public that uses the Bay and consumes its bounty. The initiatives we have pursued have been deliberate and have produced significant results in the health and productivity of the Bay's main stem, the tributaries, and the natural land and water ecosystems that compose the Chesapeake Bay watershed.

While the individual and collective accomplishments of our efforts have been significant, even greater effort will be required to address the enormous challenges that lie ahead. Increased population and development within the watershed have created ever-greater challenges for us in the Bay's restoration. These challenges are further complicated by the dynamic nature of the Bay and the ever-changing global ecosystem with which it interacts.

In order to achieve our existing goals and meet the challenges that lie ahead, we must reaffirm our partnership and recommit to fulfilling the public responsibility we undertook almost two decades ago. We must manage for the future. We must have a vision for our desired destiny and put programs into place that will secure it.

To do this, there can be no greater goal in this recommitment than to engage everyone — individuals, business, schools and universities, communities and governments — in our effort. We must encourage all citizens of the Chesapeake Bay watershed to work toward a shared vision — a system with abundant, diverse populations of living resources, fed by healthy streams and rivers, sustaining strong local and regional economies, and our unique quality of life.

In affirming our recommitment through this new Chesapeake 2000, we recognize the importance of viewing this document in its entirety with no single part taken in isolation of the others. This Agreement reflects the Bay's complexity in that each action we take, like the elements of the Bay itself, is connected to all the others. This Agreement responds to the problems facing this magnificent ecosystem in a comprehensive, multifaceted way.

BY THIS AGREEMENT, we commit ourselves to nurture and sustain a Chesapeake Bay Watershed Partnership and to achieve the goals set forth in the subsequent sections. Without such a partnership, future challenges will not be met. With it, the restoration and protection of the Chesapeake Bay will be ensured for generations to come.

Provide every student in the watershed with a meaningful watershed educational experience prior to graduation

What is a MWEE?



What is a MWEE?

- Experiences are investigative or project oriented
- Experiences should consist of three general phases:
 - *Preparation*
 - *Outdoor action*
 - *Reflection, analysis, and reporting*
- Experiences are an integral part of the instructional program
- Experiences are part of a sustained activity
- Experiences consider the watershed as a system
- Experiences involve external sharing and communication
- Experiences are enhanced by natural resources personnel.
- Experiences are for all students

Goal: To determine if meaningful watershed experiences supported by NOAA B-WET increase the stewardship ethic and/or academic achievement of students

Partnership Effort: Funded by NOAA, Chesapeake Bay Trust & Keith Campbell Foundation

Students receiving meaningful experiences increased in environmental stewardship qualities

- ☑ *Intention to Act to protect Chesapeake Bay*
- ☑ *Knowledge of issues confronting watershed*
- ☑ *Knowledge of actions in which they can engage to protect watershed*

Teachers receiving B-WET training:

- ☑ *Increased confidence in their ability to deliver experiences*
- ☑ *Increased likelihood of implementing experiences*

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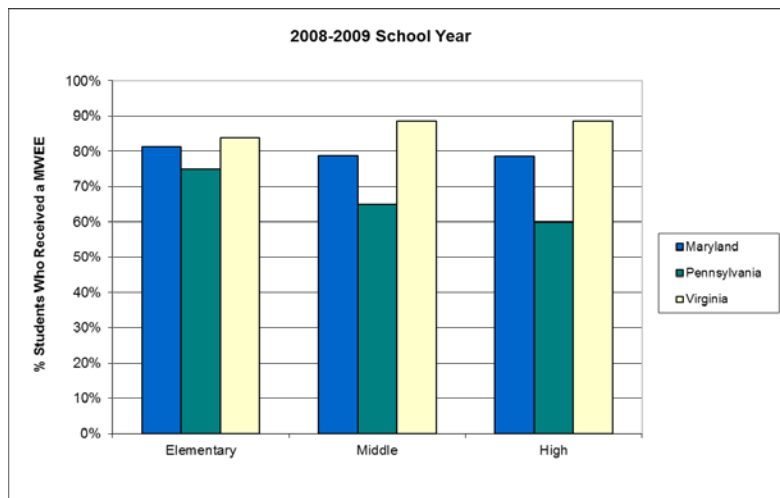
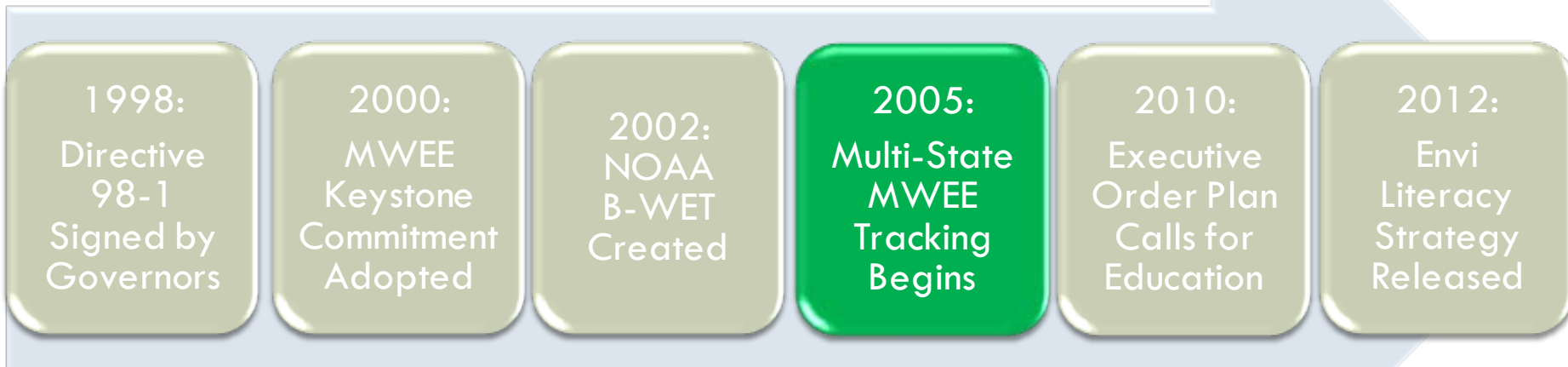
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Until NOAA B-WET, the MWEE was an unfunded mandate

Historic funding levels between \$1.2M and \$3.5M annually

NOAA took on federal leadership role in the Education Workgroup

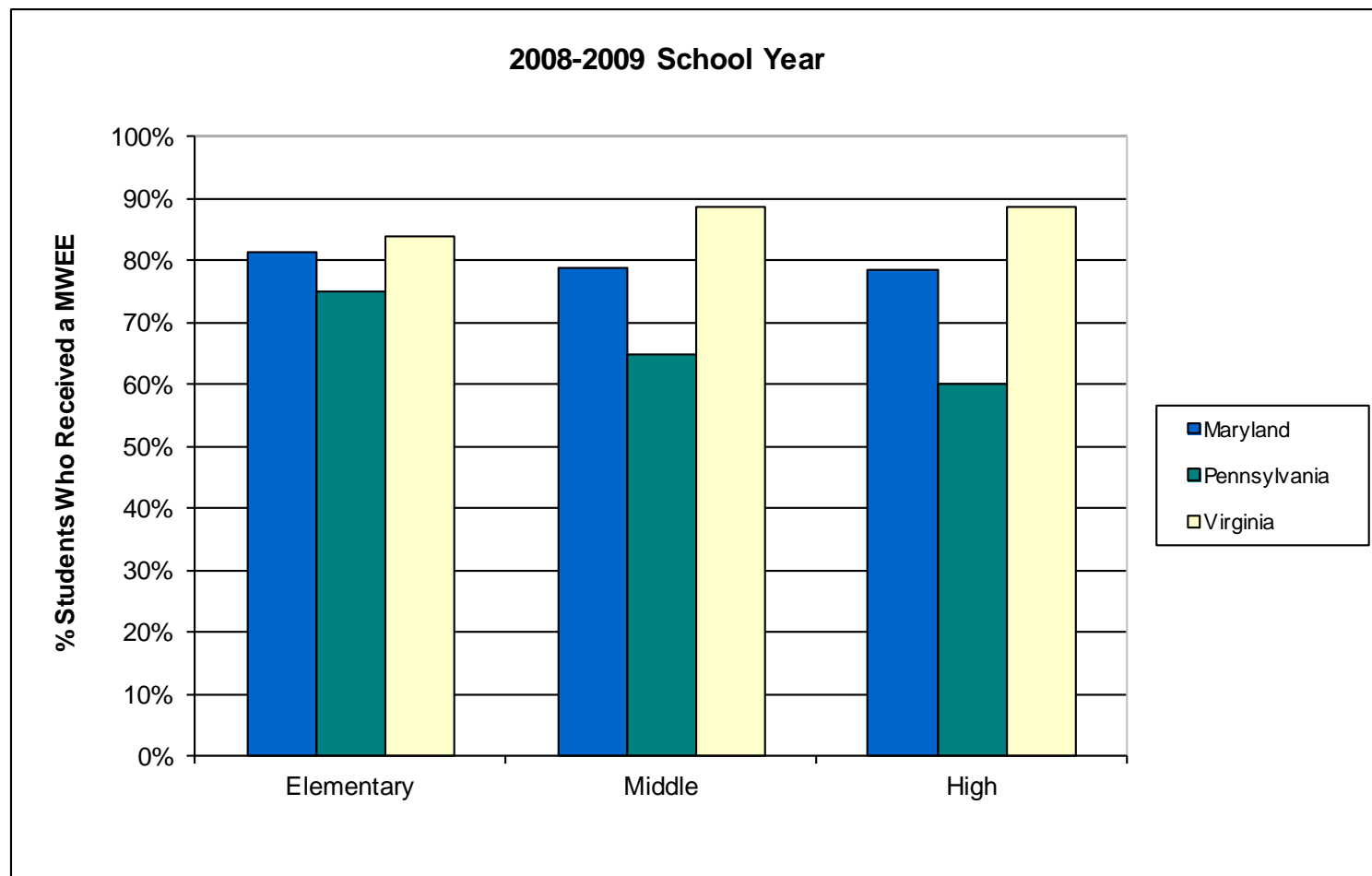


States began reporting progress towards MWEE goal in 2005

Self-report survey instrument completed by school divisions

How are we doing?

- In 2008-2009 school year, approximately 80% of students received a MWEE



How are we doing?

- In 2008-2009 school year, approximately 80% of students received a MWEE
- BUT...
 - *States used different tracking mechanisms*
 - *Unclear if superintendents had information necessary to accurately determine if MWEE definition met*
 - *Quality of experiences likely highly variable*
 - ...

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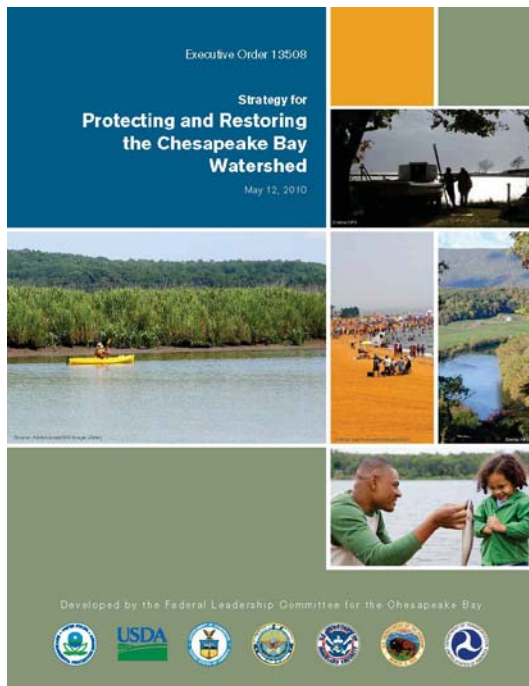
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Executive Order 13508 signed in 2009 by President Obama

Implementation Strategy released in 2010 included stewardship in response to public comment

Called on NOAA to develop an Environmental Literacy Strategy for the region

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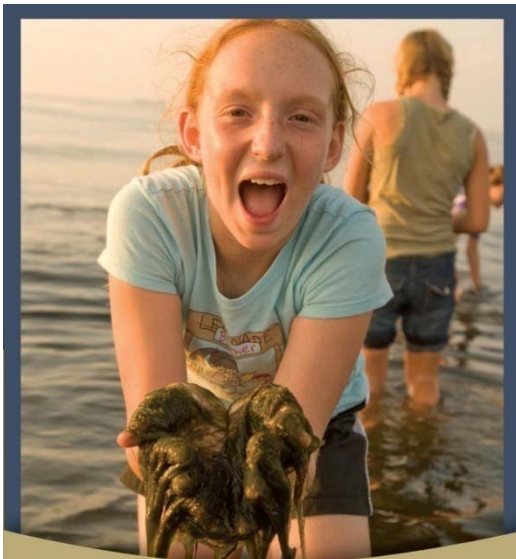
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Significantly expands federal support for state environmental literacy efforts in the Mid Atlantic

Recognizes that to implement an effective MWEE strategy, must focus on school, educator, and student EE programs

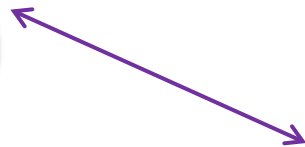


Goal 1: Every student in the region graduates with the knowledge and skills to make informed environmental decisions

Goal 2: All educators in the region responsible for instruction about or in the environment have access to sustained professional development opportunities, tools, and resources that support their efforts to provide students with high-quality environmental education

Goal 3: Every school in the region maintains its buildings, grounds, and operations to support positive environmental and human health outcomes

Goal 4: The education community in the region functions in a unified manner and coordinates with key national, regional, and state programs to represent the full suite of information and opportunities available for PK-12 audiences



Shared Vision (NAAEE Affiliates & Federal Agencies)

Shared Edu Community Goals & Outcomes

Shared Student Goals & Outcomes

Shared Educator Goals & Outcomes

Shared School Goals & Outcomes

Federal Strategies & Commitments

Regional Strategies & Commitments

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Shared Edu Community Metric(s)

Shared Student Metric(s)

Shared Educator Metric(s)

Shared School Metric(s)

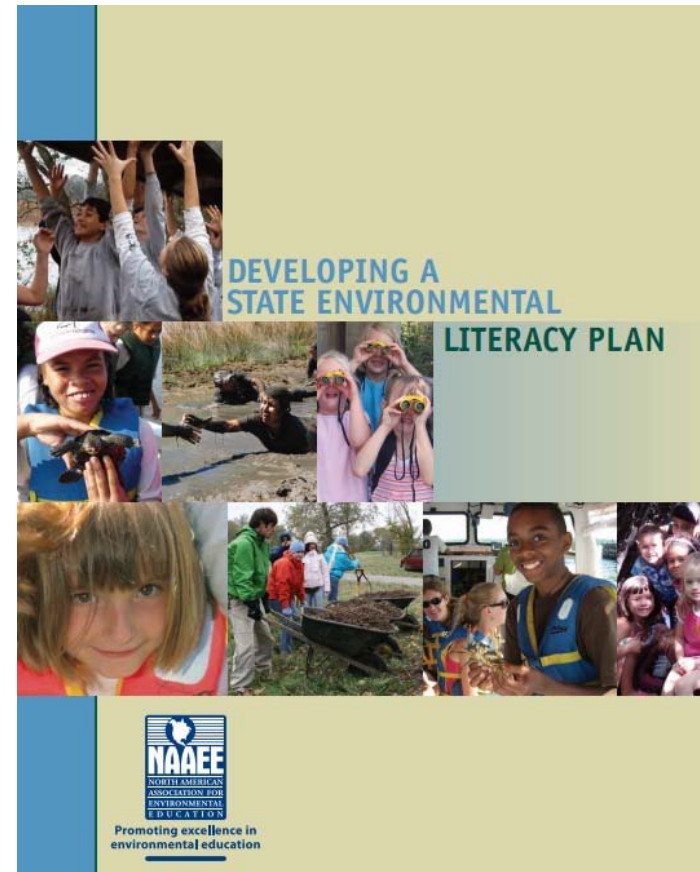
- Federal strategy corresponds with new era of non-profit collaboration
- MAEOE, VRUEC, DCEEC, PAEE, WVEEA, and DAEE
- Shared strategy finalized Summer 2012
- Focuses largely on improvement of program development and implementation:
 - Outdoor Student Programs
 - Teacher Professional Development (and certification requirements)
 - School Greening Projects
- New EPA award to CBT focuses on capacity building in support of affiliate priorities

State Environmental Literacy Plans

- 47 states have or are developing Environmental Literacy Plan
- NAAEE issued guidance document in 2008

State Status

- Maryland: est. April 2009
- District of Columbia: Submitted to DC Council June 2012
- Pennsylvania: est. August 2012
- Delaware: coming Oct 1, 2012
- Virginia: Currently updating EE Business Plan
- West Virginia: In early development

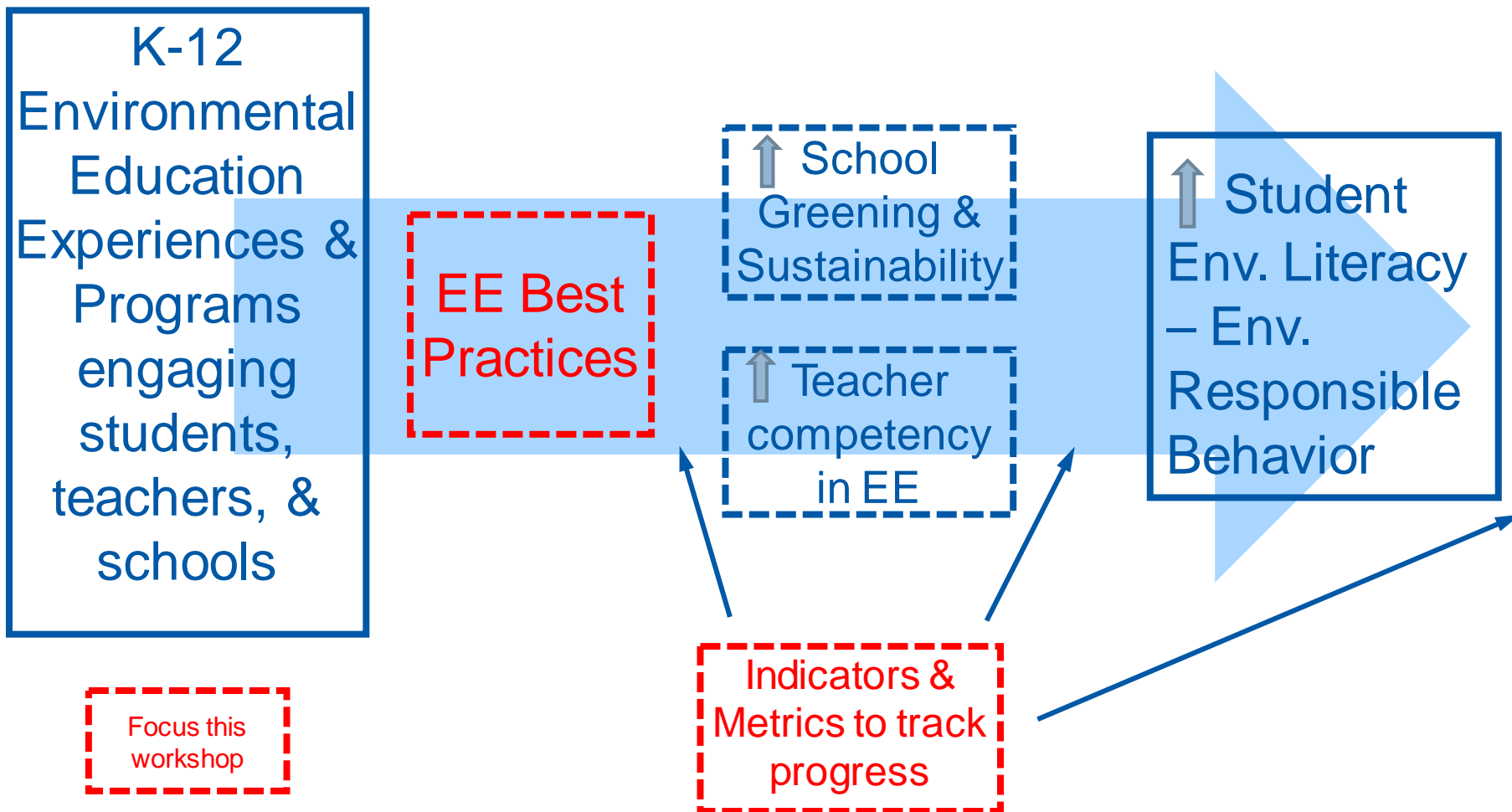


- Refine the MWEE definition based on best practices
 - Students
 - Educators
 - Schools
- Establish metrics/indicators to track MWEE best practices
- Develop tools and training to support the infusion of best practices into EE programs



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Questions?





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Questions?